TEMPORARY URGENCY CHANGE PETITION TO CERTAIN

U.S. BUREAU OF RECLAMATION PERMIT TERMS AND CONDITIONS

Permits for the Central Valley Project

Application Numbers: 14858A

Permit Numbers: 16597

I. Requested Changes

Due to the unprecedented dry conditions of 2014 and 2015, reservoir storage in the San Joaquin River Basin and New Melones is particularly low. These reservoir storage deficiencies, combined with the continued dry conditions, especially in the Stanislaus River basin, faced by California in this current water year, compel the U.S. Bureau of Reclamation (Reclamation) to request modification of certain San Joaquin River flow objectives contained in Water Rights Decision 1641 (D-1641), and modification of certain permit conditions (identified below) related to dissolved oxygen in the Stanislaus River.

This Petition sets forth specific requests for adjustment in flow requirements at Vernalis during the pulse flow period for April and May and adjustment for base, or "shoulder" flow requirements during April through June. Reclamation also proposes modification of permit conditions for dissolved oxygen on the Stanislaus River. The requested modifications were developed consistent with the findings of the January 2016 Central Valley Project and State Water Project Drought Contingency Plan, as updated, (2016 DCP), Governor Brown's January 2014 Emergency Proclamation, the December 2014 Emergency Proclamation, and other gubernatorial and state action addressing the drought.

Reclamation has actively collaborated with the State Water Board throughout this drought to ensure that the scarce water resources at New Melones Reservoir and the San Joaquin River Basin are managed appropriately over this multi-year drought, and the State Water Board has supported these efforts by approving prior Temporary Urgency Change Petitions. These proposed modifications similarly represent necessary compromises toward meeting the goals of D-1641[1] and the 2009 Coordinated Long-Term Operation of the Central Valley Project and State Water Project Biological Opinion issued by the National Marine Fisheries Service (2009

[1] Reclamation reserves and reiterates its past position often communicated to the Board that the issues with the Vernalis minimum instream flow requirements reveal issues with the implementation strategy, rather than Reclamation compliance issues. Reclamation is hopeful that the current Sacramento-San Joaquin River- San Francisco Bay Delta basin planning process will achieve a more reliable implementation of the Vernalis minimum instream flow requirements.

BiOp), while still recognizing the lingering effects from the unprecedented critically dry years of 2014, 2015, and 2016.

The requested modifications in this petition will not have any cascading direct or indirect impacts with respect to other Delta objectives.

A. Modification of San Joaquin River April-May Pulse Flows and Base Flows from April through June

D-1641 requires minimum monthly average flows on the San Joaquin River at Airport Way Bridge, Vernalis from February through June and additional pulse flows in April and May. Reclamation hereby petitions the State Water Board to adopt temporary modifications to the Vernalis base flow for April through June and the pulse flow requirements for April and May.

Reclamation will meet the critical-year March base flow requirement. However, for April through June, Reclamation proposes a base flow requirement of 1,000 cfs April 1-April 15, 2016, and May 15-May 31, 2016. Given the continued dry conditions in the San Joaquin Basin, Reclamation proposes a 500 cfs base flow for the month of June.

For the April-May pulse flow period, Reclamation proposes a modification to the D-1641 Vernalis flow criteria of a dry year (4,880 cfs) criteria. Reclamation proposes that the Stanislaus River flows specified in Appendix 2(E) of the 2009 BiOp be met. In addition, Reclamation has requested that Oakdale Irrigation District and South San Joaquin Irrigation District concur with release of 75,000 acre feet (af) of water during the April-May period to supplement Reclamation's releases from New Melones Reservoir storage to the Stanislaus River. The combined release will create a total flow on the Stanislaus River during the pulse flow period of approximately 2,000 cfs for 31 days. These flows combined with release from the Tuolumne and Merced River and South San Joaquin River accretions will create the overall pulse flow at Vernalis. In total, based on current projections and the proposed releases, the combined pulse flow rate at Vernalis would likely reach flow levels between 3,000 to 3,200 cfs[2].

Reclamation proposes that the Vernalis pulse flow requirement be temporarily adjusted to these levels. Without the proposed change, an additional release of approximately 116,000 acre-feet of stored water would be required to meet the D-1641 flow pulse flow objective of 4,880 cfs. If this release was made exclusively from stored water at New Melones Reservoir, flows on the Stanislaus River would be near 4,000 cfs for this period.

The proposed modifications are prudent and necessary because of the extraordinarily dry conditions of the past several years in combination with low reservoir storage and the competing demands on water supply for fish and wildlife protection, salinity control, carryover

[2] *See* Attached Hydrologic Flow Analysis (Attachment 1)

storage, and water supply needs. The temporary adjustments of flow requirements will conserve reservoir storage levels and help deal with the persistently dry conditions facing California, and provide sufficient carryover into water year 2017 to help meet the 2009 BiOp Appendix 2(E) flows and other fishery requirements.

B. Modification of the Ripon Dissolved Oxygen Requirement

Reclamation also requests that the State Water Board modify Permits 16597 to temporarily change the requirements of the dissolved oxygen objective identified in Reclamation's permits (condition 19). Condition 19 requires, in part, that Reclamation release water stored in New Melones Reservoir to meet the currently applicable dissolved oxygen objectives in the Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin River Basins. Reclamation is requesting that this requirement be relaxed from 7.0 mg/l to 5.0 mg/l through October 1, 2016. This same proposal was made last year to conserve stored water. Given the projected river conditions downstream of Oakdale this summer, there is a low possibility that O'mykiss will be in the lower river due to elevated water temperatures[3].

This proposed change will allow Reclamation to operate New Melones Reservoir to best meet some degree of all its permit terms and requirements of the 2009 BiOp, in coordination with the local water districts, fishery agencies and the State Water Board. Given the low reservoir storage levels, Reclamation will not be able to meet the dissolved oxygen objective and still reliably retain enough water for the October pulse flow, the targeted carryover storage, and fishery needs later in the year if conditions remain dry.

C. Application of a 1:1 Combined Export Ratio

Reclamation is not requesting any changes to D-1641 related to export rates – the following discussion is provided for information purposes only.

Through footnote 18 of Table 3, D-1641 provides that the maximum export rate during spring pulse flow shall be 1,500 cfs or 100% of the 3-day running average of San Joaquin River flow at Vernalis, whichever is greater. The 2009 BiOp also specifies certain conditions that allow for a 1:1 export/import ratio: if the previous two years plus current year of San Joaquin Valley "60-20-20" Water Year Hydrologic Classification and Indicator as defined in D-1641 is 6 or less and the New Melones Index is less than 1 million acre feet (MAF), then exports shall be limited to a 1:1 ratio with San Joaquin River inflow as measured at Vernalis, as shown in the following 2009 BiOp excerpt:

[3] *See* Attached Water Temperature Analysis (Attachment 2)

Exception procedure for multiple dry years: If the previous 2 years plus current year of San Joaquin Valley "60-20-20" Water Year Hydrologic Classification and Indicator as defined in D-1641 and provided in following table, is 6 or less, AND the New Melones Index is less than 1 MAF, exports shall be limited to a 1:1 ratio with San Joaquin River inflow, as measured at Vernalis.

San Joaquin Valley Classification	Indicator
Critically dry	1
Dry	2
Below normal	3
Above normal	4
Wet	5

In this current situation, the 2014 and 2015 San Joaquin Basin "60-20-20" Indicators were both critically dry, and the 2016 forecast most likely ranges between dry and below normal. Similarly, given the extremely low storage at New Melones Reservoir and current forecasts, the New Melones Index slightly more than 1 MAF. As a result, the combined Water Year Hydrologic Classifications and Indicators are very close to meeting the exception provided in the 2009 BiOp.

These conditions are consistent with the 1:1 export rate outlined in D-1641 and they are extremely close to meeting the 2009 BiOp exception as well. In addition, the supplemental 75,000 af river release will greatly improve outmigration conditions this spring for fall-run Chinook salmon and steelhead trout. Given the dry conditions in the Basin and low reservoir storage levels, combined with Reclamation's diligence in facilitating an additional 75,000 af of water for release, Reclamation is requesting flexibility from NMFS in implementing this specific export limit action found in the 2009 BiOp. The cumulative environmental effects are currently being evaluated by Reclamation and NMFS. We believe this combined export rate reflects an appropriate balance between competing beneficial needs in light of the drought.

Basis to Authorize the Requested Modifications

California Water Code section 1435 provides that the State Water Board may grant a temporary change order for any permittee or licensee where the State Water Board finds the following: (1) the permittee has an urgent need for the proposed change; (2) the proposed change may be made without injury to any other lawful user of water; (3) the proposed change can be made without unreasonably affecting fish, wildlife, or other instream beneficial uses; and (4) the proposed change is in the public interest. The law also requires consultation with representatives of the Department of Fish and Wildlife. Given current conditions, all of the requirements necessary to support this temporary urgency change petition have been met.

A. Reclamation Has an Urgent Need for the Changes

California has just ended four consecutive years of below-average rainfall and snowpack in the Central Valley. WY 2015 was the eighth of nine years with below-average runoff. This extended drought has produced chronic and significant challenges in the San Joaquin River Basin, especially the Stanislaus River basin, including shortages to municipal and industrial, environmental, agricultural, and wildlife refuge water supplies and historically low groundwater levels. The cumulative effects of these sustained dry conditions in the San Joaquin River Basin are demonstrated in reduced natural runoff for streamflow, limited surface water storage in reservoirs, increased groundwater pumping, and significant effects to fish and wildlife populations.

Perhaps the most critical environmental factor necessitating these proposed modifications is the fact that dry conditions in 2014 and 2015 have resulted in exceptionally low reservoir storages, which create near-impossible challenges for Reclamation to deliver critical water supplies, provide adequate cold water for instream fisheries resources, and comply with all D-1641 objectives. As of March 28, the New Melones Reservoir held 611 taf, which is over 800 taf short of the average storage amount (42% average), and only 50 taf more than this time last year. Based on forecasts incorporating the requested modifications and improved runoff in the Stanislaus River, Reclamation projects that it may be able to attain an end of month storage in September (EOMSS) amounting to 415 TAF, which is more than the 267 TAF EOMSS in 2015. However, these storage levels at New Melones are still very low. Even with the requested modifications, recovery in the San Joaquin River Basin will be a slow process, and a closely coordinated effort with local water districts will again be needed through the year to effectively manage limited supplies. Under the current circumstances, Reclamation believes the most prudent course of action is to conserve storage in upstream reservoirs until significant improvement of that storage is realized.

If the requested modifications to D-1641 Table 3 and dissolved oxygen are granted, Reclamation forecasts additional conservation of stored water in upstream reservoirs. Upstream supplies can provide the water necessary to protect fish and wildlife, Delta water quality, and water supply moving into Water Year 2017, including the Appendix 2(E) fall attraction flow required in the 2009 BiOp. However, without a modification to the Vernalis and dissolved oxygen requirements, Reclamation could be obligated to increase releases from upstream storage to meet Vernalis flows of up to 4,880 cfs (amounting to approximately 116 TAF in the pulse flow releases alone) and additional releases to meet dissolved oxygen objectives (up to 6 taf per month from June to October). These estimated impacts to reservoir storage significantly decrease the likelihood that adequate reserves will be available to meet multiple regulatory requirements in the fall of 2016 and beyond.

B. There Will Be No Impact to Other Legal Users of Water

Other legal users of water should not be injured by this action. Delta water quality objectives, protective of municipal/industrial and agricultural uses, remain in place. Reclamation anticipates that these changes will not affect the natural and abandoned flows within the San Joaquin River. The requested changes to D-1641 will reduce Reclamation's anticipated releases of stored water to augment natural and abandoned flow to satisfy regulatory requirements, but these releases would not be flows available for downstream diverters. If the State Water Board approves the requested changes that result in a reduction in the release of stored water, such a reduction would not result in a loss of supply to other legal water users. These flows are intended for the instream benefit of fish and would not be available for appropriation by others.

C. The Changes Will Not Result in Unreasonable Impacts to Fish and Wildlife or Other Instream Uses

Extreme drought conditions inevitably stress aquatic resources of the San Francisco estuary and its watershed. Dry or below normal conditions during winter and spring are expected to adversely affect spawning and rearing conditions for Longfin and Delta Smelt, and migration conditions for winter-run Chinook salmon, spring-run Chinook salmon, steelhead trout, and southern distinct population segment of North American green sturgeon. However, Reclamation has worked with fishery agencies, local interests and the State Water Board to best manage the very limited storage volumes to protect the fishery in the Stanislaus River. Reclamation will maintain releases supporting the Stanislaus River flow schedule contained in 2009 BiOp.

Reclamation will continue to work with the resource agencies to ensure these releases are timed to achieve the highest fishery benefits. In addition, this year the Head of Old River Barrier has been installed and will be functional during the pulse flow period. These efforts will assist in moving O'mykiss and fall-run Chinook salmon smolts from the San Joaquin River and through the Delta.

D. The Changes Serve the Public Interest

The public interest is best served by maintaining sustainable water diversions and water quality necessary for the protection of critical water supplies. The requested changes are in the public interest because they reserve critical water supplies for use during times when they are more beneficial to the Stanislaus River fishery and serve multiple beneficial uses, while not creating an unreasonable effect on other legal users of water, fish and wildlife, or the environment.

Reclamation Has Exercised Due Diligence

Since December 2013, state and federal agencies that supply water, regulate water quality, and protect fish and wildlife have worked closely together to cope with persistent drought. Reclamation, California Department of Water Resources, California Department of Fish and Wildlife, the State Water Board, U.S. Fish and Wildlife Service, and NMFS have closely coordinated Central Valley Project and State Water Project water operations to manage reservoir water resources through both innovative and real-time efforts, including through drought operations planning and weekly Real-time Drought Operations Management Team Meetings. This cooperative environment has allowed the State and Federal Agencies to collectively provide the necessary information to the State Water Board to support its evaluation of Reclamation's previous and future requests for modifications to operational standards required under D-1641.

The January 2016 Drought Contingency Plan and subsequent monthly updates, along with current conditions and future projections, demonstrate the urgent need to seek the modifications proposed above. The information supportive of this petition has been developed through extensive collaborative agency efforts to examine and determine the narrow and focused changes necessary to address the immediate problem and develop potential future refinements that are dependent upon the evolving hydrology.